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# Culture as Common Sense: Perceived Consensus Versus Personal Beliefs as Mechanisms of Cultural Influence

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The authors propose that culture affects people through their perceptions of what is consensually believed. Whereas past research has examined whether cultural differences in social judgment are mediated by differences in individuals' personal values and beliefs, this article investigates whether they are mediated by differences in individuals' perceptions of the views of people around them. The authors propose that individuals who perceive that traditional views are culturally consensual (e.g., Chinese participants who believe that most of their fellows hold collectivistic values) will themselves behave and think in culturally typical ways. Four studies of previously well-established cultural differences found that cultural differences were mediated by participants' perceived consensus as much as by participants' personal views. This held true for cultural differences in the bases of compliance (Study 1), attributional foci (Study 2), and counterfactual thinking styles (Study 3). To tease apart the effect of consensus perception from other possibly associated individual differences, in Study 4, the authors experimentally manipulated which of 2 cultures was salient to bicultural participants and found that judgments were guided by participants' perception of the consensual view of the salient culture.

**Keywords:** culture, cross-country comparison, norms, priming

Cultural competence is "not all of what an individual knows and thinks and feels about his world. It is his *theory of what his fellows know, believe, and mean*, his theory of the code being followed, the game being played, in the society into which he was born. It is this theory to which a native actor refers when interpreting the unfamiliar or the ambiguous . . . [yet] not every individual shares precisely the same theory of the cultural code . . ." (Keesing, 1974, p. 89)

A recurring lesson in social psychology is that individuals act on the beliefs that they perceive to be widespread in their society,

community, and group (e.g., Cialdini & Trost, 1998; Jetten, Postmes, & McAuliffe, 2002; Latané & Darley, 1968; Mead, 1934; Newcomb, 1961; Paluck, 2009; Sherif, 1936). When making everyday interpretations, individuals tend to rely on the ideas they assume are shared—on "common sense" or social representations (Moscovici, 1976). Yet this lesson has commanded little attention in the cross-cultural literature (cf. Kashima, 2008). Cultural variations in social cognition have been explained almost exclusively in terms of what individuals see inside themselves (self-concepts, personal values and beliefs), rather than what individuals see when looking outward at their social environments (Markus & Kitayama, 1991; Schwartz, 1992; Triandis, 1989). This focus of cross-cultural research on individuals' private, inward views is particularly surprising given that culture is generally understood to be a collective phenomenon that exists, to some extent, externally and publicly (Geertz, 1973).

This article advances a different model of how the patterns of our native culture come to shape our thoughts and behaviors, drawing on theories emphasizing the sharedness of cultural knowledge and individuals' knowledge of its sharedness (Geertz, 1983; Keesing, 1974). A culture is a tradition of knowledge and practice that is shared, albeit imperfectly, across the members of a society and across its generations (Chiu & Hong, 2006; Lehman, Chiu, & Schaller, 2004). When communicating with ingroup members, people continuously make reference to ideas in the cultural tradition to establish common ground, which gives rise to perceptions

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that one's fellows share and endorse these ideas (Kashima, 2008; Kashima, Klein, & Clark, 2008). As we strive to see the world "through the eyes of others" to be "objective" and reach epistemically sound judgments, we think and act on ideas perceived to be consensual with little reservation. This is a means by which prevailing cultural patterns reproduce themselves in our thoughts and actions (Bourdieu, 1979; Strauss, 2004). This contemporary analysis owes a debt to Mead's (1934) classical thesis that "it is in the form of the generalized other . . . that the community exercises control over the conduct of its individual members" (p. 155).

We present support for our argument in three cross-national comparative studies and one study using an experimental manipulation with bicultural participants. Before elaborating our model and describing the empirical tests, we review how past researchers have tested mechanisms of cultural influence within cross-national comparative studies.

### Cross-National Comparisons

Although culture can be studied with various methods (D. Cohen, 2007), one primary strategy for identifying mechanisms of cultural influence on behavior is searching for individual differences that mediate effects of country. Many cultural differences in judgment (e.g., attributional focus on individual as opposed to group actors) have clear conceptual linkages to the dimensions on which cultures have been traditionally contrasted, such as individualism versus collectivism (Menon, Morris, Chiu, & Hong, 1999). Hence, researchers have developed instruments to measure individual differences in endorsement of self-conceptions, values, attitudes, and beliefs (Triandis, 1989). The strategy is often described as "unpacking" the country effect into effects of individual-level characteristics. Despite the popularity of this approach, recent meta-analyses have concluded that measures of personal endorsement of collectivist values have limited power in explaining the differences between North Americans and East Asians in social cognition biases (Oyserman, Coon, & Kemmelmeier, 2002; Takano & Osaka, 1999). We argue that much of this research paradigm is sound—country effects on judgment can be unpacked into individual-level effects and, in many cases, are related to the previously implicated cultural dimensions (e.g., collectivism). However, the important individual difference is not inward-looking internalized values (personal endorsement of collectivism) but, rather, outward-looking social perceptions (perception that collectivism is widely endorsed in one's society).

#### Established Paradigm: Culture in Self-Conceptions and Personal Beliefs

Psychologists have assumed predominantly that cultural influence runs through traits like those studied in other areas of psychology. Researchers have looked for the imprint of cultural dimensions, such as collectivism, on self-concepts (Singelis, 1994), personality traits (Inkeles & Levinson, 1969), attitudes (Triandis, 1989), beliefs (Kashima, Siegal, Tanaka, & Kashima, 1992), and especially values (Schwartz, 1992; cf. Bond, 2002). However, accumulating evidence suggests sharp limitations to this paradigm; meta-analyses (Oyserman et al., 2002; Takano & Osaka, 1999) have found that whereas Japanese and American individuals vary

in social judgments, there is no reliable difference in self-related collectivist values.

To some extent, limitations in the evidence may reflect superficial methodological limitations, rather than deeper conceptual ones. In particular, recent research (Heine, Buchtel, & Norenzayan, 2008; Heine, Lehman, Peng, & Greenholtz, 2002; Peng, Nisbett, & Wong, 1997) noted the problem that participants respond to subjective self-report tasks by rating their own characteristics in comparison with those of the typical person in their own culture. To illustrate, suppose Americans rated their weight on a subjective scale relative to the typical American and Japanese did so relative to the typical Japanese. The average self-ratings would not differ by country. To discover the actual group difference that Americans are heavier, one would have to ask participants to report their weight on an objective scale. In sum, people's sense of what is typical or consensual serves as an implicit standard of comparison, biasing responses in ways that obscure actual group differences.

Nonetheless, in pointing out this methodological problem, past researchers may have missed a more substantive role of the implicit standards constituted by perceived consensus. Implicit standards may also guide decisions and behavior. That is, Americans' knowledge of the typical American's ample girth lead them to subjectively describe themselves as thin but encourage them to eat more! An analogy can be drawn to two functions of reference groups distinguished by Kelley (1952): a *comparative* function (i.e., when uncertain how to describe themselves, people evaluate themselves relative to the group standard) and a *normative* function (when uncertain what to do, people anchor on the standard to construct their response). A classic example of normative influence is Sherif's (1936) finding that participants' judgments of ambiguous stimuli are affected by those of the others in their group, and this influence of the perceived consensus persists even when participants subsequently make judgments in private. Analogously, perceptions of broader societal or cultural consensus ("common sense") may play an important role in guiding individuals' thoughts and behavior. This may be an underappreciated mechanism through which received cultural patterns are reproduced in people's cognitions and actions, even when they hold personal beliefs to the contrary.

#### Proposed Paradigm: Culture in Perceived Consensus

We argue that key cultural differences in social cognition are carried by differences in individuals' perceptions of their culture's consensual beliefs, beyond any influences of differences in individuals' personal commitments to the beliefs. This argument involves two premises worth elaborating: *Perceived* cultural consensus is a distinct construct, and it has distinct effects in producing culturally typical actions and thoughts.

#### *Perceived Cultural Consensus: A Distinct Construct*

In making the case for people's perceptions of consensual views as an important explanatory variable in carrying cultural patterns, it is important to establish that the construct is distinct from similar constructs that have been studied previously. First, it has been shown that individuals often project their personal attitudes onto some kinds of peer groups (Robbins & Krueger, 2005). This

phenomenon can be recognized in cases where individuals' personal views and perceived group views are highly similar. However, several recent studies measuring perceived consensus at the national or cultural level have found that personal views and perceived consensus views are not highly correlated (Fischer, 2006; Hofstede, 2005; Kurman & Ronen-Eilon, 2004; Wan, Chiu, Tam, et al., 2007).

Second, perceived consensus is not simply a reflection of objective consensus. Many researchers have investigated the objective consensus in cultures (Romney, Boyd, Moore, Batchelder, & Brazill, 1996) and communities (descriptive norms; see Cialdini & Trost, 1998). Rather than merely reflecting the objective consensus (or reflecting them with error variance around the true value), people's perceptions of consensus tend to be systematically biased. In the phenomenon of pluralistic ignorance, groups hold mistaken perceptions of their own consensus, which go unchecked because people never directly observe their fellows' values, attitudes, and other inner characteristics (Katz & Allport, 1931; Prentice & Miller, 1993; Schanck, 1932). Recent studies have demonstrated pluralistic ignorance with regard to the modal values and beliefs in one's country (Hirai, 2000; Robins, 2005; Wan, Chiu, Tam, et al., 2007). The bias is often toward misperceiving that traditional views are still widespread; a society's perception of itself tends to lag behind actual change in people's private beliefs and values. For instance, the persistence of caste-based hiring in India has been traced to inflated perceptions of consensual support for caste values (Kuran, 1995). Similarly, studies of segregation attitudes in the United States in the 1960s found that shifting values were not fully reflected in the racial values that White people perceived to be consensual among other White people (O'Gorman, 1975, 1979). It is important to note that estimates of White segregationist sentiment were most inflated for individuals whose social networks were all White (regardless of their personal attitudes; O'Gorman & Garry, 1977). That is, individuals who communicated solely within their ingroup had the strongest traditionality bias in their perceptions of its consensus.

Communication research suggests that ingroup communication gives rise to biased perceptions of consensus in several ways (Bruner, 1990; Jovchelovitch, 2007; Latané & L'Herrou, 1996; Moscovici, 1988; Postmes, Haslam, & Swaab, 2005; Schegloff, 1991). Speakers' assumptions about the "common ground" of shared knowledge with an audience tacitly shape what they say and how they say it (Clark & Brennan, 1991). When facing an ingroup audience, speakers tend to frame their message in terms of constructs from the shared cultural tradition (Kashima, Klein, & Clark, 2008). An incidental byproduct of this communication process, however, is that the audience forms an impression of the speaker as personally aligned with traditional views, and in two-way communication, both sides come away with inflated assumptions about the consensuality of traditional views (Kashima, 2000) and stereotypes (Haslam, 1997). Research on communication networks and pluralistic ignorance in communities reveals that individuals' perceptions of the consensus are highly determined by tradition-biased content of what ingroup members say to each other and have little to do with projection of personal beliefs (Kitts, 2003). That is, communication with ingroup members draws on the shared familiarity with a cultural tradition and, in so doing, perpetuates the perception of consensual traditionality.

Representations of consensus also can be distinguished from the ingroup prototypes studied in social identity research (Turner, 1985). Although individuals can form both kinds of representations about their cultural group, these structures coalesce through different cognitive processes, guided by different motivations, resulting in different biases. Consensus representations do not require awareness of one's culture as a category; hence, even in the most traditional cultures, people, like fish unaware of water, may lack experiences with cultures and awareness of their own culture as a collective. Prototypes, however, require reflecting on the relevant social category and distilling a fuzzy set of features (which could be beliefs but also could be appearance, lifestyle, diet, etc.) that maximally resembles exemplars of the category and maximally differs from those of contrasting categories (the "meta-contrast principle"; Oakes, Haslam, & Turner, 1994; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). Whereas consensus representations serve coordination and communication functions (and hence are biased toward traditionality), prototypes serve self-related motives, such as self-esteem and status (and hence are biased toward positive differentiations from other categories; Tajfel & Turner, 1979). Whereas consensus representations are slowly evolving assumptions about common ground that lag behind social change, group prototypes are highly variable across social contexts and are continually reconstructed within each new frame of reference on the basis of which self-categorizations (gender, race, education) fit meaningfully and which contrasting categories are salient (Turner, Oakes, Haslam, & McGarty, 1994). The situationally changing salience of contrasting categories, which in practice is often a matter of the presence of outgroup members,<sup>1</sup> highlights another bias of prototypes to be polarized away from features of the comparison group (Hogg, 2004, p. 229). In sum, ingroup prototypes differ from perceived consensus in their wider range of content features, their more reflective and comparative process through which they are formed, their mercurial malleability, and their bias toward positivity and contrast with currently salient comparison category, rather than bias toward traditionality.

Our proposal, in summary, is that people carry around implicit perceptions of consensus beliefs and values, close to what is vernacularly called "common sense." These representations arise as a byproduct of everyday coordination and communication with fellow adherents of a tradition. These perceptions are not mere projections of self onto a group, nor reflections of the group's objectively shared beliefs, nor prototype representations constructed from comparisons of one's social category with contrasting categories.

### *Influence on Cognitions and Actions*

The claim that people's thoughts and behaviors are guided by their outward-looking perceptions of what others believe, as opposed to their inward-looking conceptions of themselves, is coun-

<sup>1</sup> Contrasts commonly occur between different categories at the same level of abstraction (e.g., women vs. men, artists vs. scientists), yet this is not the only possibility. Self-categorization theorists have also described other contrasts, such as between one's category and subordinate or superordinate categories, although such representations are less clearly "prototypes" in Rosch's sense (Rosch & Mervis, 1975).



terintuitive at first glance. However, related arguments have been advanced by a number of social theorists. As discussed previously, sociologists such as Mead and Bourdieu have claimed that society's influence over the individual works through the individual's reliance on ideas that he or she perceives to be widely shared. An influential work by the philosopher Taylor (1985) argued that conceptions of agency guide behaviors not only because they are shared but also because we know them to be shared. This enables us to use them to comprehend others' actions and expectations, to anticipate how they will evaluate and respond to our actions, and so on. Consider that much of the difficulty of operating in an unfamiliar culture is ignorance of the shared beliefs that enable one to choose actions that can send the intended signals. Among immigrants, greater accuracy in perceptions of the consensual beliefs of the host society is a key predictor of adjustment (Kurman & Ronen-Eilon, 2004; Li & Hong, 2001).

Studies of communication provide, perhaps, the richest evidence for effects of perceived consensus on behavior. Strauss (2004) found that the perceived sharedness (or cultural standing) of an idea determines in which kinds of conversations or discourses it gets expressed. As noted earlier, perceptions that an idea is shared by one's audience make communicators more likely to use it as common ground (Krauss & Chiu, 1998; Lau, Chiu, & Lee, 2001). In group decision-making contexts, particularly when the goal of consensus is emphasized, individuals are more likely to reference the information perceived to be shared by other members (Postmes, Spears, & Cihangir, 2001). In ingroup communication chains, messages become conventionalized as a result of growing within perceived consensual reference. (Bartlett, 1932). Lyons and Kashima (2003) explored whether perceived consensus shapes communication even beyond one's assumptions about one's immediate conversation partner. These investigators manipulated whether the participant's current conversational partner was perceived to share the stereotype, as well as whether this stereotype was seen as broadly shared in the community. Participants communicated the stereotype information more when they perceived the stereotype to be shared in the community, regardless of whether they believed it to be shared by their immediate conversation partner.

Other research has suggested that perceived cultural consensus affects not only one's public acts of communication but also one's private cognitions. A number of studies indicate that heightened motivation to think in consensus with others leads individuals to display judgmental biases traditional in their culture. The motivation of need for cognitive closure (Kruglanski & Weber, 1996) drives individuals to seek answers validated by consensus with the salient ingroup. Cross-national studies find that high (vs. low) need for closure individuals in each country are more likely to exemplify the biases of its cultural tradition when judging causes of outcomes (Chiu, Morris, Hong, & Menon, 2000) or judging how to resolve conflicts (Fu et al., 2007). Also, inducing need for closure through time pressure increases culturally conventional biases (Chiu, Morris, Hong, & Menon, 2000). Other manipulations that require participants to state reasons before making choices (Briley, Morris, & Simonson, 2000) or make them accountable for their decisions to ingroup others (Gelfand & Realo, 1999) similarly amplify culturally traditional response biases, most likely be-

cause these manipulations activate perceived cultural consensus as a template for acceptable judgment.

## Summary and Overview of the Present Research

The present studies explore the role of perceived consensus as a mechanism that carries cultural biases in judgment. The contribution of this research lies in distinguishing these outward social representations of culture from inward self-representations. Although some voices in cultural psychology have insisted that culture and self are mutually constituted and inseparable (Shweder, 1990), this view forecloses investigation of how culture and self interact. Our analysis, instead, focuses on a socially constructed representation of culture of which individuals have different readings. Whereas other perspectives also focus on individual variations, such as the degree to which individuals align their self-concepts with their cultural identity—the degree of cultural identification (Hogg, 2004)—we focus on variation in perceived consensus that is independent of the self-concept. After reporting our studies investigating the role of perceived consensus in carrying cultural patterns of behavior, we return in the General Discussion to this question of how it interacts with self and how our approach contrasts with and complements other conceptualizations of culture and cognition.

Despite the increasing research attention to perceived consensus, no studies have thoroughly tested whether perceived consensus is a mechanism for cultural effects on social cognition, above and beyond the mechanism of personal views. The present research tests this hypothesis in three cross-national comparative studies and one study using an experimental manipulation with bicultural participants. Specifically, we draw on several previously established cultural differences in social cognition. Study 1 examines whether the classic collectivism dimension moderates the cultural differences in sensitivity to compliance appeals: whether personal consistency is more appealing in low collective culture and social proof is more appealing in high collective culture. We predicted that the key to the cultural differences in these interpersonal responses is individuals' perceptions of the level of collectivism of their fellows, rather than their personal level of collectivism. In Studies 2 and 3, we compared samples across countries to explore mediators of cultural differences in more intra-personal forms of social cognition: causal attribution (Study 2; Morris & Peng, 1994) and counterfactual thinking (Study 3; Chen, Chiu, Roese, Tam, & Lau, 2006).<sup>2</sup> However, this strategy of analyzing mediation in cross-national effects cannot conclusively establish the mechanism. Hence, in Study 4, we recruited bicultural participants and experimentally manipulated which culture was salient to test whether their judgments followed distinctively from their perceptions of consensus relevant to the salient culture. This result would show more incisively that an individual's representation of the consensus related to a given culture is a mechanism in generating judgments that conform to the culture's biases.

<sup>2</sup> Individuals whose social perception experiences span the cultural boundary would form, on this basis, an ingroup prototype about their culture. They would also form a perception of consensus on the basis of their ingroup communication experiences. The types of (differentially biased) representations of their culture would play different roles in shaping their behavior.

## Study 1: Compliance

The most common individual difference in cross-cultural studies is the individualist–collectivist (I–C) value dimension. Triandis (1989) defined individualists as those who “give priority to personal goals over the goals of collectives” and collectivists as those who “either make no distinctions between personal and collective goals, or if they do make such distinctions, they subordinate their personal goals to the collective goals” (p. 509). Triandis (1989) called U.S. culture the prototype of individualism and Chinese culture the prototype of collectivism. More generally, collectivism characterizes most non-Western societies: in Eastern Europe, Latin America, Africa, India, Asia, and so forth. In the present study, we tested whether differences between national cultures in rates of compliance with different persuasion principles arise from individuals’ perceived societal I–C values or from their personal I–C values.

Two classic persuasion principles are personal consistency and social proof. That is, people are more likely to comply with a request when it is drawn to their attention that they have consistently taken the same action in the past (personal consistency) and that the action is supported by the majority of their peers (social proof). A cross-cultural comparison by Cialdini et al. (1999) found that Americans, compared with Poles, are more susceptible to consistency information and less susceptible to social proof information.

This study is noteworthy because it is one of the few studies in the cross-cultural literature in which an individual difference measure of I–C statistically mediated the country effect on social judgments. Perhaps not coincidentally, however, this study used a different operationalization of I–C than most studies in the literature. Cialdini et al. (1999) used the Cultural Orientation Scale (Bierbrauer, Meyer, & Wolfradt, 1994), which was originally designed to differentiate the perceived national norm and personal value components of individualism and collectivism. The scale consists of 13 pairs of questions. The first question in each pair asks the participant to report how frequently an I–C-related behavior occurs in the participant’s country (perceived cultural consensus). The second question asks the participant the extent to which the participant values the given behavior (personal value). Cialdini et al. did not distinguish between these two types of questions; rather, they measured I–C by aggregating responses to the two types of questions. In Study 1, we reanalyzed these data, separating measures of personal value from perceived cultural consensus. We expected that Americans would perceive individualism to be widely shared in the United States, whereas Polish participants would perceive collectivism to be widely shared in Poland. Further, we predicted that this difference in perceived consensual I–C would account for the national difference in compliance tendencies over and beyond what is accounted for by personal I–C values.

## Method

### Participants

A total of 505 undergraduate psychology students participated in this study. Among them, 235 (26.8% men) were students from Arizona State University in the United States, and 270 (40.37% men) were students from the University of Silesia in Poland. As

there was a higher percentage of women in the American sample,  $\chi^2(1, N = 505) = 10.39, p < .001$ , we controlled for the effects of gender in our analyses; no gender effects were found.

## Measures

**Cultural Orientation Scale.** Participants were given the Cultural Orientation Scale (COS; Bierbrauer et al., 1994), which measures individuals’ perception of cultural members’ I–C orientation and their personal values. There are 26 items, constituting 13 pairs of questions. The first question in each pair, the item measuring perception of the consensual values in their culture, asks participants to report how frequently an I–C-related behavior (e.g., doing something exactly as one wants to do, regardless of what friends may think; consulting one’s family before making an important decision) occurs in their country on a 7-point Likert scale ranging from 1 (*not at all*) to 7 (*always*). The second question in each pair, the personal value item, asks participants to evaluate their own behaviors on a 7-point Likert scale ranging from 1 (*very bad*) to 7 (*very good*). From these two question types, we constructed separate scales for participants’ perceived consensual values ( $\alpha = .62$ ) and their personal values ( $\alpha = .55$ ), with higher scores indicating higher levels of collectivism.

**Experimental manipulations and compliance measure.** Participants read a hypothetical scenario in which the protagonist was approached by a representative from a soft drink company and asked to participate in a marketing research survey. The participants were asked to imagine themselves being the protagonist and to rate their likelihood of complying with the request on a 9-point Likert scale ranging from 0 (*no likelihood*) to 8 (*very high likelihood*).

Half of the participants received consistency information. These participants were asked to indicate the compliance likelihood if the protagonist had (a) always and (b) never agreed to complete similar surveys in the past. The remaining participants were provided with peer (fellow students) information; they indicated the compliance likelihood when (a) all and (b) none of the participants’ peers complied with the request. Responses to consistency and peer information were calculated as the difference between responses to Conditions (a) and (b). These difference measures controlled for individual differences in the general willingness to comply with requests.

## Results

### Cultural Differences in Collectivism

As expected, the perceived cultural consensus was more collectivistic (less individualistic) for Polish participants than for American participants. A Culture (Polish vs. American)  $\times$  Type (perceived consensus vs. personal value; within-participants factor) analysis of variance (ANOVA) controlling for gender was performed on responses to the COS. As Table 1 shows, the perceived consensual collectivism was significantly higher for Polish participants than for American participants ( $M_{\text{Polish}} = 3.56, SD = 0.43$  vs.  $M_{\text{American}} = 3.16, SD = 0.52$ ),  $F(1, 503) = 93.75, p < .001$ ,  $\eta_p^2 = .16$ . In contrast, the two cultural samples did not differ in personal collectivism ( $M_{\text{Polish}} = 3.81, SD = 0.59$  vs.  $M_{\text{American}} = 3.90, SD = 0.69$ ),  $F(1, 503) = 2.70, ns$ .

**Table 1**  
*Personal Collectivism and Perceived Consensual Collectivism (Study 1)*

Variable	Polish		American	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Personal collectivism	3.81	0.59	3.90	0.69
Perceived consensual collectivism	3.56	0.43	3.16	0.52

### *Cultural Difference in Compliance*

Compared with Americans, Poles were influenced more by peer information and less by consistency information. We performed a regression analysis to test the main effects and the interaction effect of culture (0 = *American*, 1 = *Polish*) and information (0 = *consistency information condition*, 1 = *peer information condition*). The Culture  $\times$  Information interaction was significant ( $\beta = 0.16$ ),  $t(504) = 2.20$ ,  $p < .05$ . As shown in Figure 1, the effect of consistency information was stronger for the Americans than for the Poles,  $t(289) = -1.73$ ,  $p < .08$ , whereas the effect of peer information was stronger for Poles than for Americans,  $t(216) = 1.69$ ,  $p < .09$ , although both differences were only marginally significant.

Furthermore, for both American and Polish participants, greater perceived consensual collectivism was positively related to the influence of peer information ( $r_{\text{American}} = .24$ ,  $r_{\text{Polish}} = .32$ ) and negatively related to the influence of consistency information ( $r_{\text{American}} = -.33$ ,  $r_{\text{Polish}} = -.20$ ). Greater personal collectivism was not related to the influence of peer information ( $r_{\text{American}} = .08$ ,  $r_{\text{Polish}} = .10$ ) or consistency information ( $r_{\text{American}} = -.07$ ,  $r_{\text{Polish}} = -.03$ ).

### *Mediation Effect of Perceived Cultural Consensus*

Following the procedure outlined by Muller, Judd, and Yzerbyt (2005), we tested whether the effect of culture in moderating susceptibility to information is mediated by individual's perception of consensual collectivism. We entered the main effects of culture, perceived consensual collectivism, and information, the Culture  $\times$  Information interaction, and the Perceived Consensual Collectivism  $\times$  Information interaction into a regression model to predict the compliance likelihood ratings. Consistent with the moderated mediation hypothesis, the Culture  $\times$  Information interaction became nonsignificant in this analysis (standardized  $\beta = 0.10$ ),  $t(504) = 1.23$ , *ns*, whereas the main effect of perceived consensual collectivism remained significant (standardized  $\beta = 0.14$ ),  $t(504) = 2.11$ ,  $p < .05$  (see Figure 2). The Sobel test results supported the perceived consensual collectivism as a mediator of the cultural difference in sensitivity to consistency versus peer information ( $z = 2.09$ ,  $p < .05$ ).

### *Discussion*

Study 1 measured the degree of collectivism (versus individualism) in Americans' and Poles' personal values and in their perceptions of cultural consensus. Perceptions of cultural consensus were more collectivistic for Poles than Americans, whereas personal values did not differ across the two cultures. Most sig-

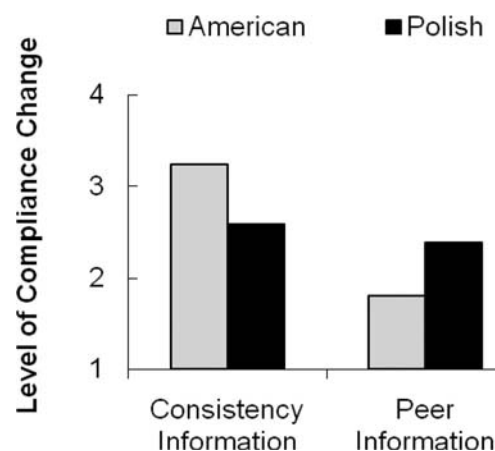
nificant, the cultural difference in perceived consensual collectivism statistically mediated the effect of national culture on compliance: responses to consistency and peer information. This result provides initial support for our argument that, beyond individuals' personal values, their perceptions of cultural consensus drive their degree of conformity to cultural traditional patterns of judgment.

Nevertheless, a critic might contend that using compliance judgments as our dependent measure unfairly favors our account. Compliance occurs in an interpersonal interaction in which conformity to shared norms may be necessary to avoid tension or conflict. However, we assume that the pressure of social interaction is not necessary for the role of perceived cultural consensus. Even in purely intrapersonal thoughts, people anchor their judgments on the patterns they assume to be consensual. To provide further support for this argument, we conducted two more cross-national comparisons that focus on mere intrapersonal processes: casual attribution and counterfactual thinking.

### *Study 2: Causal Attribution*

Study 2 addresses a much-noted cultural difference: East Asians' attributions for behavior are less likely than those of Westerners to focus on an individual actor and are more likely to focus on the social context (Miller, 1984; Morris & Peng, 1994). It has been argued that perceivers in different cultures hold different default beliefs or theories about behavior—Westerners *dispositionism* and East Asians *situationism* (Morris & Peng, 1994; Norenzayan, Choi, & Nisbett, 2002)—albeit without direct evidence that individual differences in participants' beliefs mediate the effects of national culture on attributions. We propose that the more important variable may be participants' beliefs about the degree to which these theories are shared in their culture: that is, Westerners (East Asians) see dispositionism (situationism) as the cultural consensus, and hence, they anchor on it as a default interpretation when making causal attributions.

This argument is consistent with the perspective that causal attribution can be shaped by the relevant social context, by people's perception of what a given audience finds relevant and reasonable (Sperber & Wilson, 1990). For example, when asked in



**Figure 1.** Compliance change as a function of culture and condition information (Study 1).



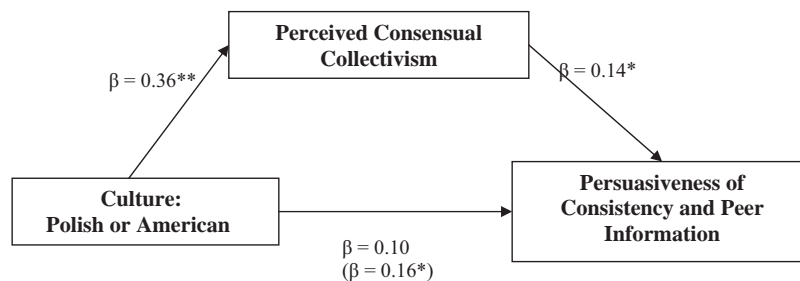


Figure 2. Perceived consensual collectivism mediates the effect of culture on susceptibility to consistency versus peer information-based compliance inductions (Study 1). \*  $p < .05$ . \*\*  $p < .01$ .

a mail survey to explain a mass murder, participants emphasized personal, dispositional explanations when they assumed a psychologist audience and more situational, contextual explanations when they assumed a sociologist audience. (Norenzayan & Schwarz, 1999). That is, people provide causal attributions tailored to the audience's biases. Culture, as a shared communication context, involves a perceived consensus about how behavior is best explained. Hence, cultural differences in attributional foci may be mediated by participants' perceptions of cultural consensus about implicit theories of behaviors. We tested this idea in Study 2.

### Method

#### Participants

To control for subculture variation, we recruited only ethnic Chinese participants in Hong Kong and only ethnic White participants in the United States. The participants were 64 Hong Kong Chinese undergraduates (35.4% men) and 65 American undergraduates (56.1% men). Most American participants identified themselves as European American (61 European Americans, 1 African American, 1 Asian American, 1 Latino American, and 1 who did not report his or her ethnicity). We retained all participants in the American sample, although eliminating those who were not European American did not change the results. As there were significantly more female participants in the Chinese sample,  $\chi^2(1, N = 64) = 6.07, p < .05$ , we included gender in the reported results. Overall, gender did not have any significant main effect or interactions in the analyses reported subsequently.

#### Measures

Participants responded to an attribution measure commonly used in cross-cultural studies (Morris & Peng, 1994). The participants saw a picture of a fish swimming leftward in front of other fish and responded to two attribution items, as follows: (a) "To what extent do you think the leftmost fish's movements seem influenced by internal cause?" Responses ranged from 1 (*hardly at all*) to 5 (*almost entirely*). (b) "To what extent do you think the leftmost fish's movements seem influenced by other fish?" Responses ranged from 1 (*hardly at all*) to 5 (*almost entirely*).

Next, the participants received a measure of the participants' personal beliefs in dispositional and situational theories of behavior (Norenzayan et al., 2002). Participants read a description of each theory of behavior and indicated their levels of agreement on a Likert scale ranging from 1 (*strongly disagree*) to 9 (*strongly*

*agree*; see Appendix for the descriptions). Finally, they indicated on the same scales their perceptions of the degree to which their fellow members in the culture ("Hong Kong Chinese" for the Hong Kong sample and "Caucasian Americans" for the American sample) would agree with the two descriptions.<sup>3</sup> A 10-min filler task was inserted between the attribution measure and the personal causal theory measures and between the personal belief measures and the perceived consensual belief measures.

### Results

#### Cultural Differences in Attribution

We replicated the past finding on cultural difference in causal attribution. A Culture (Chinese vs. American)  $\times$  Attribution (internal vs. external, within-participants factor) ANOVA controlling for gender performed on the attribution items yielded a significant two-way interaction,  $F(1, 126) = 6.91, p < .01, \eta_p^2 = .05$ . As in past research, Americans, compared with Chinese, made significantly stronger internal attribution ( $M_{\text{American}} = 3.66, SD = 1.04$  vs.  $M_{\text{Chinese}} = 3.18, SD = 1.00$ ),  $F(1, 126) = 6.89, p < .01, \eta_p^2 = .05$ . External attribution showed a reverse pattern, albeit only marginally significantly ( $M_{\text{American}} = 2.47, SD = 1.00$  vs.  $M_{\text{Chinese}} = 2.81, SD = 0.99$ ),  $F(1, 126) = 3.23, p < .08, \eta_p^2 = .03$ .

#### Cultural Differences in Causal Beliefs

To examine cultural differences in causal theories, we performed a three-way ANOVA on the causal theory measures, including culture as a between-participants variable and beliefs (dispositionism vs. situationism) and type (personal vs. perceived consensus) as within-participants variables and controlling for gender. The analysis yielded a significant three-way interaction,  $F(1, 126) = 8.72, p < .005, \eta_p^2 = .07$ . To understand the nature of this interaction, we performed a Culture  $\times$  Beliefs ANOVA separately for the personal beliefs and perceived consensual beliefs measures. For the perceived consensual beliefs measures, the Culture  $\times$  Beliefs interaction was significant,  $F(1, 126) = 9.87, p < .002, \eta_p^2 = .07$ . As shown in Table 2, American participants'

<sup>3</sup> To minimize the demand characteristics that may evoke culturally typically behaviors, studies were not presented as cross-cultural studies. Study 1 was conducted at a psychology course as part of the course requirements. Studies 2, 3, and 4 were introduced to participants as research on social judgment.

Table 2  
*Dispositionism and Situationism in Personal Beliefs and Perceived Consensual Beliefs (Study 2)*

Variable	Chinese		American	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Personal belief				
Dispositionism	5.58	1.72	5.54	1.87
Situationism	4.84	1.58	4.78	1.78
Perceived consensual belief				
Dispositionism	5.69	1.68	6.46	1.51
Situationism	5.75	1.72	5.05	1.75

perceived consensual dispositionism ( $M_{\text{American}} = 6.46$ ,  $SD = 1.51$ ) was higher than Chinese participants' perceived consensual dispositionism ( $M_{\text{Chinese}} = 5.69$ ,  $SD = 1.68$ ),  $F(1, 126) = 7.58$ ,  $p < .007$ ,  $\eta_p^2 = .06$ , whereas Chinese participants' perceived consensual situationism ( $M_{\text{Chinese}} = 5.75$ ,  $SD = 1.72$ ) was higher than American participants' perceived consensual situationism ( $M_{\text{American}} = 5.05$ ,  $SD = 1.75$ ),  $F(1, 126) = 5.88$ ,  $p < .05$ ,  $\eta_p^2 = .03$ . However, the two cultural samples did not differ in their personal dispositionism ( $M_{\text{Chinese}} = 5.58$ ,  $SD = 1.72$  vs.  $M_{\text{American}} = 5.54$ ,  $SD = 1.87$ ),  $F(1, 126) = 0.04$ ,  $ns$ , nor personal situationism ( $M_{\text{Chinese}} = 4.84$ ,  $SD = 1.58$  vs.  $M_{\text{American}} = 4.78$ ,  $SD = 1.78$ ),  $F(1, 126) = 0.05$ ,  $ns$ . These results indicate that perceived consensual beliefs is a candidate for mediating attribution judgments, but personal beliefs is not.

#### Mediating Effect of Perceived Cultural Consensus

To test whether perceived consensus in dispositionism mediates the effect of culture on internal attribution, we regressed perceived consensual beliefs in dispositionism on culture (0 = *Chinese*, 1 = *American*) and found a significant effect of culture (standardized  $\beta = 0.27$ ),  $t(127) = 2.82$ ,  $p < .005$ . Our mediation analysis focused on internal attribution only, because the cross-cultural difference in external attribution was not significant. Next, we regressed internal attribution on culture, and again, the effect of culture was significant (standardized  $\beta = 0.23$ ),  $t(127) = 2.54$ ,  $p < .01$ . Finally, we regressed internal attribution on culture and perceived consensual dispositionism simultaneously. As shown in Figure 3, in this regression, the effect of culture was substantially attenuated (standardized  $\beta = 0.18$ ),  $t(127) = 1.99$ ,  $p < .05$ , and perceived consensual dispositionism remained significant (stan-

dardized  $\beta = 0.20$ ),  $t(127) = 2.33$ ,  $p < .02$ . The Sobel test result indicated a significant mediation ( $z = 1.96$ ,  $p < .05$ ), and the mediation effect remained significant after we controlled for personal belief in dispositionism.

#### Discussion

Study 2 found that perceived consensual dispositionism partially mediated effects of culture on internal attribution, but personal belief in dispositionism did not. Whereas past research has mostly assumed that the carriers of cultural biases in cognition are people's innermost values, beliefs, or self-concepts, this study suggests that people's habitual patterns of private thought are shaped by their outward perceptions of consensus. Although we did not observe a significant mediation effect of individuals' personal dispositionism beliefs in Study 2, we cannot conclude that personal beliefs are not mediators of cultural differences in judgments. Past studies have found evidence that some differences are mediated by personal views and preferences, such as attitude-behavior consistency beliefs (Kashima et al., 1992), personal expression values (Kim & Sherman, 2007), and motivational predilections (Lalwani, Shrum, & Chiu, 2009). Our argument does not dispute this; it merely holds that perceptions of consensus at least partly mediate cultural effects, even after controlling for effects of personal beliefs and values.

To further establish our thesis, in Study 3, we investigated another intrapersonal, rather than interpersonal, judgment: people's private counterfactual thoughts. We demonstrate that people's perception of consensus in self-regulatory values affects how they process their own experiences. In particular, when people react to negative life experiences, they tend to do so in the ways congruent with their perceptions of culturally consensual regulatory values.

#### Study 3: Counterfactual Thinking

Study 3 investigated cultural differences in valued modes of self-regulation and their link to differences in counterfactual thinking biases (Chen et al., 2006). Promotion- and prevention-focus refer to clusters of values about means for achieving ends; people's regulatory orientations form through their experiences with parenting styles and other social institutions (Higgins, 1999). Many studies have observed that East Asians, compared with North Americans, have stronger prevention focus and weaker promotion focus (Higgins, 2008; Higgins, Pierro, & Kruglanski, 2007).

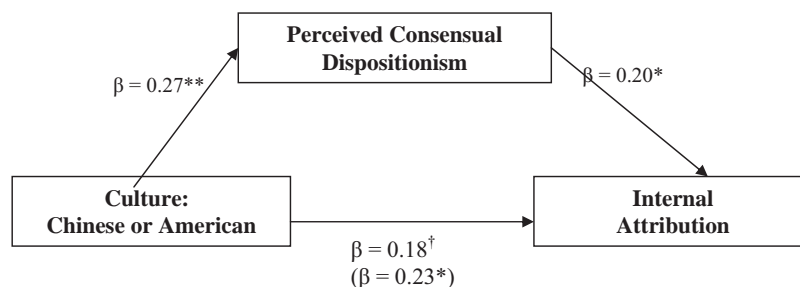


Figure 3. Perceived consensual dispositionism mediates the effect of culture on internal attribution (Study 2).  
 $^{\dagger} p < .1$ .  $^{*} p < .05$ .  $^{**} p .01$ .

Promotion- and prevention-focused people tend toward different types of counterfactual thoughts after a setback (Roese, Hur, & Pennington, 1999). In a typical counterfactual study, participants first recall a negative outcome and then generate a counterfactual scenario to “undo” the outcome in the frame “If only . . . , then . . .” (Roese, 1994). The relevant distinction is between additive and subtractive counterfactuals. Additive counterfactuals simulate the event turning out differently by inserting an additional factor into the causal chain, whereas subtractive counterfactuals do so by deleting a factor that was present in the actual causal chain (Roese, 1997). Roese et al. (1999) found that promotion focus induces additive counterfactuals and that prevention focus induces subtractive counterfactuals. For example, to undo the outcome of “feeling burnout at work,” promotion-focused participants would add actions to the scenario, such as “if only I had taken a vacation last month, then I would not feel this burnout.” In contrast, prevention-focused participants would subtract actions from the scenario, such as “If only I had *not* taken on the additional assignment last month, then I would not feel this burnout.”

Consistent with the aforementioned cross-cultural difference in regulatory foci, there is evidence that East Asians differ from North Americans in being more likely to generate subtractive counterfactuals and less likely to generate additive counterfactuals (Chen et al., 2006). In Study 3, we investigated this difference in counterfactual thinking and measured personal regulatory values, as well as perceived consensual regulatory values, to explore whether the latter mediates culture differences in counterfactual bias.

## Method

### Participants

One hundred twenty European American undergraduates (45% men) and 85 Chinese undergraduates (29% men) participated in Study 3. As the two samples differed in terms of gender proportions,  $\chi^2(1, N = 205) = 5.18, p < .03$ , we controlled for the effect of gender in the analyses. Overall, gender did not have any main effect or moderate any of the effects in these analyses.

### Measures

**Counterfactual thinking.** Counterfactuals are often evoked when people think of negative events (Roese, 1994). In this study, we had the participants first recall a negative event and then generate a counterfactual scenario in the frame “If only . . . , then . . .” Following previous cross-cultural research in counterfactual thinking (Chen et al., 2006), the participants completed this task in each of the following five domains: schoolwork, romance, family, friendship, and general.

Two independent coders read each completed sentence and decided whether or not the sentence expressed (a) an additive counterfactual and/or (b) a subtractive counterfactual. An additive counterfactual thought inserts an antecedent factor that was not present, for example, “If only I had called my mom, then I would not have felt so bad now.” A subtractive counterfactual deletes a factor that was present, for example, “If only I had not broken up with my ex-girlfriend, then we would still be together.” Some responses contained both an additive counterfactual thought and a

subtractive counterfactual thought (e.g., “If only I had not gone to the party and had studied for the exam, then I would have gotten a better grade”). Hence additive and subtractive counterfactuals were treated as two independent categories, rather than as mutually exclusive categories.

One European American and one Chinese English bilingual coded the American participants’ responses, and two Chinese coders coded the Chinese participants’ responses. Inter-coder reliability was acceptable: 97.8% for American participants’ additive counterfactuals, 97.7% for American participants’ subtractive counterfactuals, 90.2% for Chinese participants’ additive counterfactuals, and 92.0% for Chinese participants’ subtractive counterfactuals. Disagreement was resolved through discussion between the coders. The dependent measure was a proportion computed by dividing the total number of a particular type of counterfactual across the five domains by five.

**Regulatory Focus Questionnaire.** The Regulatory Focus Questionnaire (Higgins et al., 2001) measures promotion and prevention focus. First, participants answered the standard scale tapping their personal regulatory orientation. Then they answered a minimally different scale tapping their perception of the culturally consensual orientation. Some items are phrased in the form of a statement. For these items, a participant rates his or her agreement with the statements on a 5-point Likert scale ranging from 1 (*certainly false*) to 5 (*certainly true*). The remaining items are phrased in the form of a question. For these items, a participant indicates how often he or she acts or thinks in that particular way on a 5-point Likert scale ranging from 1 (*never or seldom*) to 5 (*very often*). The perceived consensus orientation scale queried participants’ perception of whether the statements are widely endorsed and the actions widely practiced, for example: “Growing up, would most Americans ever ‘cross the line’ by doing what their parents would not tolerate?”; “Did most Americans get on their parents’ nerves often when they were growing up?”

The regulatory focus scale displayed acceptable reliability in both the personal and the perceived consensus versions, particularly for the prevention scales (Chinese participants’ personal orientations were  $\alpha_{\text{prevention}} = .80$ ,  $\alpha_{\text{promotion}} = .63$ ; Americans’ personal orientations were  $\alpha_{\text{prevention}} = .76$ ,  $\alpha_{\text{promotion}} = .68$ ; Chinese participants’ perceived consensus were  $\alpha_{\text{prevention}} = .75$ ,  $\alpha_{\text{promotion}} = .55$ ; Americans’ perceived consensus were  $\alpha_{\text{prevention}} = .76$ ,  $\alpha_{\text{promotion}} = .50$ ).

## Results

### Cultural Difference in Counterfactual Thinking

We performed a two-way ANOVA with culture as a between-participants variable, counterfactuals (additive vs. subtractive) as a within-participants variable, and gender as a covariate. The analysis yielded a significant main effect of culture,  $F(1, 203) = 29.84, p < .001, \eta_p^2 = .13$ , and a significant two-way interaction,  $F(1, 203) = 8.96, p < .003, \eta_p^2 = .04$ . Consistent with past research, Chinese participants, compared with Americans, generated significantly more subtractive counterfactuals ( $M_{\text{American}} = 0.27, SD = 0.19$  vs.  $M_{\text{Chinese}} = 0.43, SD = 0.27$ ),  $t(203) = 4.92, p < .001$ . Chinese participants also exhibited fewer additive counterfactuals, but not significantly so ( $M_{\text{American}} = 0.72, SD = 0.27$  vs.  $M_{\text{Chinese}} = 0.70, SD = 0.20$ ),  $t(203) = -0.44, p = .65$ .

## Cultural Difference in Regulatory Focus

To examine cultural differences in regulatory focus, we performed a three-way ANOVA on the regulatory focus measures, including culture as a between-participants variable and focus (promotion vs. prevention) and type (personal vs. perceived consensual) as within-participants variables and controlling for gender. The analysis yielded a nonsignificant three-way interaction,  $F(1, 203) = 0.381, p > .2$ , but a significant two-way Culture  $\times$  Focus interaction,  $F(1, 203) = 8.68, p < .004, \eta_p^2 = .07$ . That is, regardless of the types of measures (personal vs. perceived consensual), regulatory focus differs significantly across cultures. To understand the cross-cultural difference in regulatory focus, we conducted simple  $t$  tests. As shown in Table 3, Chinese participants' perceived consensual prevention focus was higher than that of Americans ( $M_{\text{Chinese}} = 3.06, SD = 0.79$  and  $M_{\text{American}} = 2.74, SD = 0.61$ ),  $F(1, 204) = 4.01, p < .001, \eta_p^2 = .08$ . Perceived consensual promotion focus did not differ across the two cultures ( $M_{\text{American}} = 3.36, SD = 0.48$ ;  $M_{\text{Chinese}} = 3.44, SD = 0.62$ ). Alternatively, American participants' personal promotion focus ( $M_{\text{American}} = 3.81, SD = 0.70$ ) was significantly higher than Chinese participants' personal promotion focus ( $M_{\text{American}} = 3.42, SD = 0.63$ ),  $p < .001, F(1, 203) = 3.38, \eta_p^2 = .06$ . The personal prevention focus does not differ across the two cultures ( $M_{\text{American}} = 3.43, SD = 0.48$ ;  $M_{\text{Chinese}} = 3.42, SD = 0.62$ ).

## Mediation Analyses

Subtractive counterfactual thoughts differed between American and Chinese participants, so we tested whether this effect was mediated by participants' perceived consensual regulatory focus. Because we observed significant cultural differences on both personal promotion focus and perceived consensual prevention focus, we tested the mediating effect of perceived consensual prevention focus controlling for the cross-cultural difference in personal promotion focus.

We first regressed our proposed mediator—perceived consensual prevention focus—on culture (0 = *American*, 1 = *Chinese*). After we controlled for personal promotion focus, Chinese participants' perceptions of the consensuality of prevention-focus (among their Chinese peers) were higher than American participants' perceptions of it (among their American peers;  $\beta = 0.33$ ),  $t(203) = 4.91, p < .001$ . Next, we regressed our dependent measure—subtractive counterfactual thinking—on culture. Chinese participants generated more subtractive counterfactual

thoughts than did Americans ( $\beta = 0.33$ ),  $t(203) = 4.90, p < .001$ . In the third regression, we regressed subtractive counterfactual thinking simultaneously on culture and perceived consensual prevention focus. As illustrated in Figure 4, the effects of culture, ( $\beta = 0.13$ ),  $t(203) = 1.90, p < .05$ , and perceived consensual prevention focus ( $\beta = 0.31$ ),  $t(203) = 4.49, p < .001$ , both remained significant. A Sobel test showed that the attenuation of the culture effect on subtractive counterfactual thinking after controlling for perceived consensual prevention focus was significant ( $z = 2.92, p < .05$ ). This result is consistent with our hypothesis that the influence of culture on the bias toward subtractive counterfactual thinking runs through perceptions of the consensuality of prevention focus among their peers.

## Discussion

Study 3 extends the evidence that perceived consensus mediates cultural effects to another form of social cognition: counterfactual thinking. The greater tendency of Chinese participants to imagine away negative outcomes by subtracting antecedent actions from the scenario arises from their greater perception of the consensuality of prevention focus in their social environment, not from their greater personal prevention focus. This finding is also consistent with the basic premise in self-regulation theory that individuals often draw on the viewpoints of generalized others to regulate the self (Higgins, 1999).

## Study 4: Bicultural People's Consensus Perceptions

Cross-national comparative quasi-experiments follow the predominant research design in cross-cultural psychology. Nonetheless, they are limited in several ways. In quasi-experiments, participants are not randomly assigned to conditions (in this case, cultures), so there may be other differences between the American and Chinese groups, aside from immersion in different cultural traditions, that account for the group difference in the dependent variable (Hong, Morris, Chiu, & Benet-Martinez, 2000; Matsumoto & Yoo, 2006). It is conceivable, for example, that country differences in judgment patterns reflect biases arising from other environmental factors that are not inherently tied to culture. Moreover, although the mediational analyses are consistent with the proposal that effects of country work through the mechanism of perceived consensual beliefs and values, the results are not conclusive; it is always possible that perceived consensus is confounded with some other individual difference dimension, which we have not identified yet, and that this other dimension could be the true mechanism.

A complementary method for testing cultural influences is experimentally varying whether a culture is salient. Making a culture identity salient leads to greater use of associated knowledge (Hong et al., 2000), such as representations of the culture's consensual views. Experimentally manipulating the salience of cultures is particularly valuable with bicultural people. Research finds that Chinese American bicultural people can exhibit either Chinese or American attributional biases, depending on which culture is made salient (Hong, 2009). Moreover, given that individuals differ somewhat in their assumptions about the consensual beliefs in these respective cultures, the effect of making a culture salient should be conditioned by these indi-

Table 3  
Promotion and Prevention Focus in Personal Beliefs and Perceived Consensual Beliefs (Study 3)

Variable	Chinese		American	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Personal values				
Promotion	3.42	0.63	3.81	0.71
Prevention	3.22	0.61	3.43	0.48
Perceived consensual values				
Promotion	3.44	0.62	3.36	0.48
Prevention	3.06	0.79	2.74	0.61



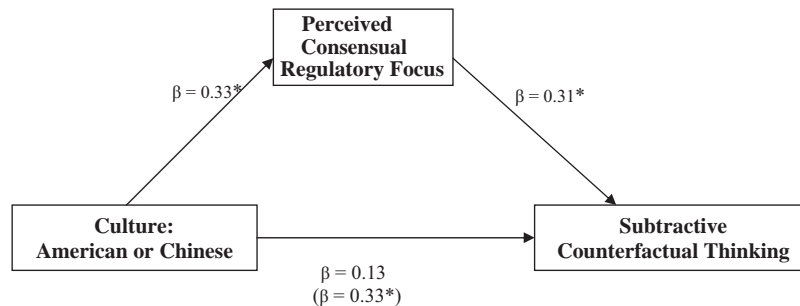


Figure 4. Perceived consensual regulatory focus mediates the effect of culture on subtractive counterfactual thinking (Study 3). \*  $p < .05$ .

vidual differences in assumptions. In an analogous effect, for example, Benjamin, Choi, and Strickland (2007) found that when gender is made salient, women become more risk-averse and men become more risk-seeking, especially those men and women who assume that traditional gender roles persist.

Study 4 involved Hong Kong university students, who are steeped in both Chinese and American cultures (Fu et al., 2007; Hong et al., 2000). By randomly assigning them to either the American culture or the Chinese culture salience conditions, we controlled for all factors other than activated cultural knowledge. We manipulated cultural salience by varying the identity of the ostensible "investigator," the expected audience of the participants' responses (Briley, Morris, & Simonson, 2005).

After American or Chinese culture was made salient through the audience manipulation, we measured attributions using the non-transparent fish judgment task. Then we measured participants' beliefs about dispositional and situational theories of behavior, including participants' personal endorsement of those beliefs, as well as their perceptions of consensual American views and consensual Chinese views. We predicted that attributional judgment would reflect which culture was made salient and, more specifically, the participants' particular image of that culture's consensus. That is, in the American investigator condition, attributional bias should be correlated with participants' perceptions of American consensual beliefs. Likewise, in the Chinese investigator condition, it should be correlated with participants' perceptions of Chinese consensual beliefs.

## Method

### Participants

The participants were 121 ethnically Chinese undergraduates at Hong Kong University (66.1% women). Gender did not have any main effect or moderate any of the significant effects reported in these analyses.

### Procedure

After they signed the informed consent form, the participants were given a cover letter that introduced the study and presented the culture-salience manipulation. In the Chinese culture-salient condition, the letter was printed on Hong Kong University letterhead, and the investigator's last name was an easily recognizable Hong Kong Chinese name. In the American culture-salient condi-

tion, the letter was printed on Boston University letterhead, the last name of the researcher was an easily recognizable Anglo-American name, and it was explained that the participants' university was helping this American researcher collect data for a research project.

The measures were identical to those in Study 2. The participants saw a picture of a fish swimming in front of other fish and responded to the attribution measures. Next, the participants were given descriptions of the dispositionism and situationism beliefs (Norenzayan et al., 2002). Besides rating their personal beliefs, the bicultural participants also rated their perceptions of the consensual beliefs of Hong Kong Chinese and of Americans.<sup>4</sup> We counterbalanced the order of the two perceived consensual belief ratings and inserted a 10-min filler task between them. Order did not have any effect and was not considered further.<sup>5</sup>

Finally, at the end of the study, the participants were asked to recall the nationality of the "investigator," and all participants were able to do so correctly. They were also asked to use a 7-point Likert scale ranging from 1 (*not at all*) to 7 (*very much*) to give their impressions of this figure's friendliness, trustworthiness, knowledge, likeability, and attractiveness. The culture-salience manipulation did not have a significant effect on any of these ratings (highest  $F = 2.11$ , *ns*). Thus, the results reported subsequently were not due to participants having more or less favorable attitudes toward local versus foreign investigators.

<sup>4</sup> Perceived consensus can be measured by the perception of how a typical member of the culture would respond to a certain item (average response), or by the perception of how most people in the culture would respond to it (modal response). Previous studies using these two measures of perceived consensus have yielded identical results (Wan, Chiu, Peng, & Tam, 2007; Wan, Chiu, Tam, et al., 2007). As a variation, we measured perceived consensus with perception of modal response in the current study.

<sup>5</sup> In each culture-salience condition, we also counterbalanced the language of the instructions. Half of the participants in each condition received the measures in English, and the remaining half received the measures in Chinese. To make the manipulation realistic, participants in the Chinese language and American culture-salient condition also learned that the questionnaire was translated into Chinese with the help of a Chinese colleague. The language manipulation controlled for potential linguistic influences on attribution that might confound the effect of cultural knowledge. Because the language manipulation did not have any effect, this factor was not considered further.

## Results and Discussion

### Dispositionism and Situationism Beliefs

We first examined the correlation between participants' personal beliefs and their perceptions of consensual American and Chinese beliefs. Personal belief in dispositionism showed a modest positive association with perceived consensual American dispositionism ( $r = .35, p < .001$ ) and consensual Chinese dispositionism ( $r = .33, p < .001$ ). Likewise, personal belief in situationism was positively associated with perceived consensual American situationism ( $r = .35, p < .001$ ) and consensual Chinese situationism ( $r = .30, p < .001$ ). This suggests that the personal beliefs of these bicultural participants were moderately and about equally similar to their perceptions of Chinese and American consensual beliefs.

Next, we conducted a Culture (between-participants factor: American or Chinese)  $\times$  Type (within-participants factor: personal, consensual Chinese, or consensual American)  $\times$  Belief (within-participants factor: dispositionism or situationism) analysis. Fortunately, none of the effects involving the culture salience manipulation were significant ( $F_s < 1, p_s > .5$ ). This indicates that the manipulation did not contaminate measures of personal beliefs or perceived consensual beliefs.

There was a significant Type  $\times$  Belief interaction,  $F(1, 119) = 12.90, p < .001, \eta_p^2 = .10$ . This effect reflected differences in the consensual beliefs that our bicultural participants imputed to American versus Chinese culture. Consistent with the findings of Study 2, participants perceived higher consensual dispositionism in American ( $M_{\text{American}} = 6.63, SD = 1.58$ ) than Chinese culture ( $M_{\text{Chinese}} = 5.61, SD = 1.67$ ),  $t(119) = 5.66, p < .001$ , and accordingly, lower consensual situationism ( $M_{\text{American}} = 5.73, SD = 1.73$ ;  $M_{\text{Chinese}} = 6.16, SD = 1.52$ ),  $t(119) = 2.41, p < .02$ . When we compared within groups, consensual American dispositionism was perceived to be higher than consensual American situationism,  $t(119) = 4.59, p < .001$ , and consensual Chinese situationism was perceived to be higher than consensual Chinese dispositionism,  $t(119) = 2.75, p < .007$ . In contrast with the

perceived cultural beliefs, personal beliefs in dispositionism and situationism did not differ significantly ( $t_s < 1, p_s > .5$ ).

### Test of Perceived Consensus Beliefs as a Mechanism Shaping Attributions

To test our critical hypothesis, we conducted a regression analysis on a summary measure of attribution bias (internal attribution–external attribution). We first regressed the attribution measure on a dummy variable for the culture manipulation (0 = *Chinese*, 1 = *American*) and the six belief measures (i.e., personal beliefs, perceived consensual American beliefs, and perceived consensual Chinese beliefs for both dispositionism and situationism). Next, we entered the interaction between the culture manipulation and each of the six beliefs. As expected, effects of the culture manipulation on attributional bias were moderated by perceived consensual beliefs and not by personal beliefs. The culture manipulation interacted with perceived consensual Chinese dispositionism (standardized  $\beta = -0.28$ ),  $t(119) = -1.99, p < .05$ , and with perceived consensual American dispositionism (standardized  $\beta = 0.35$ ),  $t(119) = 2.32, p < .05$ . We expected such interactions from the premise that participants' image of each culture (perceived American consensual beliefs and Chinese consensual beliefs) would affect their attributions only when this cultural knowledge is activated.

The pattern of these interactions is illustrated in Figure 5, which shows the effect of each of the six beliefs (standardized betas) in the Chinese culture salient condition and American culture salient condition, respectively. Underlying the first interaction effect, perceived consensual American dispositionism was related to increased internal attribution in the American culture salient condition (standardized  $\beta = 0.55$ ),  $t(119) = 3.78, p < .001$ , but not in the Chinese culture salient condition (standardized  $\beta = -0.015$ ),  $t(119) = -0.56, p > .5$ . Underlying the second interaction effect, perceived consensual Chinese dispositionism was more strongly associated with internal attribution in the Chinese culture salient

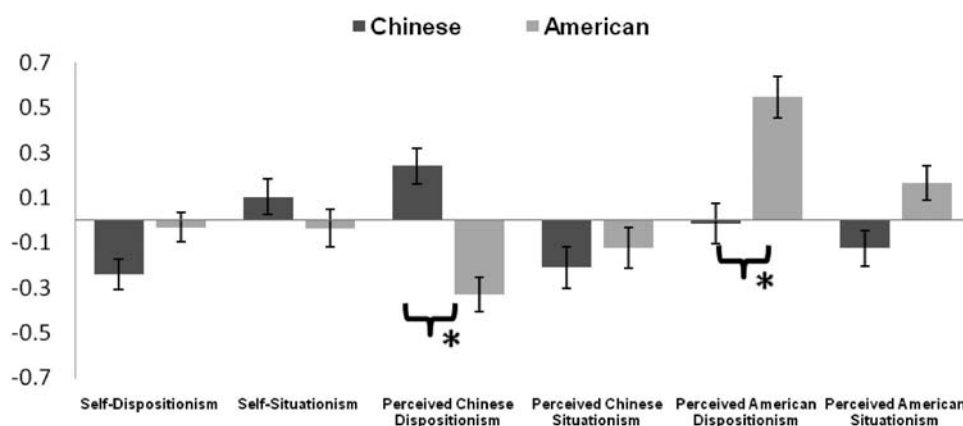


Figure 5. Association between causal theories and internal versus external attribution in the Chinese and American conditions (Study 4). Two significant interactions were highlighted. One is the interaction between perceived Hong Kong dispositionism and the cultural context manipulation; the other is the interaction between perceived American dispositionism and the cultural context manipulation; that is, the two betas significantly differ from each other. Error bars represent the standard error of the estimated betas. \*  $p < .05$ .

condition (standardized  $\beta = 0.24$ ),  $t(119) = 1.23$ ,  $p < .11$ , than it was in the American culture salient condition (standardized  $\beta = -0.32$ ),  $t(119) = 1.95$ ,  $p < .08$ .<sup>6</sup>

## General Discussion

The primary goal of the present research was to investigate whether culture impinges on individual thoughts and behaviors through perceptions of consensus or “common sense” and whether these representations of socially shared ideas guide people’s judgments. Study 1 examined Americans’ and Poles’ personal collectivism and their perceptions of the consensual collectivism within their respective societies. Whereas personal collectivism did not differ across countries, perceived consensual collectivism differed in the way expected: Poles perceived collectivism to be more consensual in their society than Americans did in their society, and this individual-level variable mediated the effect of country on sensitivity to different types of compliance pressure. The next studies replicated this mediation result in investigations of different beliefs and different social judgments known to differ cross-culturally. Perceived consensual belief in dispositionism mediated American versus Chinese cultural differences in attribution judgments (Study 2). Likewise, perceived consensual regulatory focus mediated differences between these cultures in counterfactual thinking (Study 3). Finally, an experiment with bicultural participants found that manipulating the salient culture affected whether their judgments were implicitly guided by their assumptions about American consensual beliefs or their assumptions about Chinese consensual beliefs. (Study 4).

Although our analyses in Studies 1 to 3 focused on perceived consensus as a mediator of cultural differences, further analyses probed other questions. Separate analyses for each cultural sample in all three studies showed that perceived cultural consensus significantly predicted social judgment, indicating that individual differences within a country enable prediction of which individuals exhibit culturally traditional biases. Also, in all three studies, country did not moderate the relationship between perceived consensus and social judgment, indicating that the effect of perceived cultural consensus is equally strong across cultures. Although Study 1 indicated that Poles are more likely than Americans to conform to consensus information about their student peers (consistent with collectivist emphasis on adherence to the norms of tight ingroups), there was no corresponding difference in conformity to perceived consensus at a cultural level.<sup>7</sup> In sum, individualists, just as much as collectivists, adhere to what they perceive to be consensual or common sense in their culture.

## Implications

### *Conceptualization of Culture as Shared Knowledge*

A recurring question in social science is how best to conceptualize culture. Psychology and anthropology studies have explored various conceptualizations. The dominant paradigm in cross-cultural psychology has been studying culture in the inward self-concepts, values, and beliefs of individual members (Ashton et al., 2005; Bond, 1988; Triandis, 1989). This atomistic view of each individual independently following his or her own personal copy of the cultural instructions is preceded in anthropology by the

cognitive approach of Goodenough (1961, 1971), which sought to identify the cognitive structures that underlie individual cultural performances.

Opposite this approach is the more holistic view that culture exists at a collective, emergent level, beyond the plane of individuals’ thoughts. Some cross-cultural psychologists have advocated studying culture in the attributes of collectivities, usually countries, such as economic, political, and health statistics (Georgas & Berry, 1995; Sawyer, 1967). Conceptually, albeit not methodologically, this corresponds to classical anthropological assumptions that treated culture as an emergent collective-level system (see Herskovits, 1955).

In between these atomistic and holistic perspectives, the approach that our research supports conceptualizes culture as shared knowledge. In this conceptualization, culture does not exist within the individual’s private knowledge but does not entirely transcend the individual either; it exists largely in public discourse (Geertz, 1973, 1983). This can be seen in the particular form of shared knowledge on which we have focused—perceived consensus—in that it is an outward-looking representation about one’s fellows, and it is co-constructed, and continually reconstructed, through one’s communication with them. It is not, like a personal belief or value, purely an internal matter, entirely under one’s personal control (Chiu & Hong, 2005; Shore, 1996). That is why culture can feel, at the same time, like something that is under one’s skin, part of the self, and like something external, constraining the self. Our conceptualization is particularly close to Keesing’s (1974) description of cultural competence as the individual’s “theory of what his fellows know . . . the code being followed, the game being played” (p. 89). Although we have focused on perceived consensus, this conceptualization suggests other representations, such as knowledge of institutionalized rules, which also determine cultural biases in decisions that cannot be explained by people’s private preferences (see Yamagishi, Hashimoto, & Schug, 2008). In sum, the conceptualization of culture as shared, public knowledge points to a rich perspective for future research in cultural psychology.

<sup>6</sup> Although the findings for personal beliefs and perceived consensual dispositionism are as predicted, we did not find the predicted interaction for perceived consensual situationism. This was expected particularly in the Chinese culture-salient condition, given that participants perceived high consensual situationism in Chinese culture. One possible interpretation, in light of the Study 2 results, is that assumptions about consensual situationism are less potent shapers of attributions than are those about consensual dispositionism. More research is needed on this point.

<sup>7</sup> Specifically, we conducted both within-country and between-country analyses. Of the six samples from Studies 1–3, we tested whether perceived consensus predicts social judgment, and all the main effects within each culture were consistent with our predictions ( $ps < .055$ ). We, for three studies, tested whether country moderated the effect of perceived consensus. There was no significant effect of the interaction terms between country and perceived consensus in predicting judgment in Study 2 and Study 3 ( $ps > .7$ ). Unexpectedly, we found that the country moderating effect was significant in Study 1 ( $p < .06$ ). However, the interaction effect suggested that the perceived consensus had a stronger effect in the American sample than in the Polish sample.

## Differentiating Culture and Self

For some kinds of groups, distinguishing perceptions of consensus from self-perceptions is difficult because people tend to project their own views onto the ingroup (Robbins & Krueger, 2005). Studies that have measured perceptions of culture-wide consensus show fewer signs that people project their own values onto these groups (Hofstede, 2005). Nevertheless, the mechanism of self-projection onto groups raises a possible alternative explanation for our key finding, namely that perceived consensus only predicts judgments because it is projected from self-perceptions. The predictions of this self-projection explanation are that individuals' personal views and perceived consensus views are highly correlated and that individuals' personal views have the causal primacy. Although in our samples we observed a positive association between personal views and perceived cultural consensus, the effect of perceived consensus shows a significantly stronger association with the behavioral outcome measures than does the effect of personal views. Furthermore, we tested and did not find support for the alternative, reverse mediation model (culture  $\rightarrow$  judgment  $\rightarrow$  perceived consensus) in Studies 1–3 (Sobel's  $z$  for the reversed model = 1.62 in Study 1, 1.64 in Study 2, and 1.74 in Study 3; all  $n$ s). The results rule out the possibility that individuals' perceptions of cultural consensus are constructed on the fly on the basis of their judgments in the task.

More important, the cognitive effects of perceived cultural consensus obtained in our studies do not implicate the self: Neither personal beliefs nor the alignment of personal beliefs with the perceived cultural consensus, mediated or moderated the effects. Self-identities may play an important role in cultural influence, as theories of social identity and self-categorization (Turner, 1991; Turner et al., 1994) posit. However, perceived cultural consensus and the self are likely to be two separate paths through which culture impacts social cognitions.

## Acculturation of Immigrants and Sojourners

How do immigrants or sojourners come to think and act like natives of the host culture? Although this is traditionally portrayed as a slow and emotionally fraught process, our analysis of cultural influence suggests that acculturation in thought patterns may occur through spontaneous, preconscious processes of forming perceptions of consensual patterns and relying on them as bases for judgments and decisions. Indirect evidence for the role of perceived consensus comes from studies of immigrants that have included the motivational dimension of need for closure, which creates a drive for consensus with the salient ingroup. Individuals who move by themselves to another culture acculturate more quickly if they are high in need for closure, yet those who move as part of a heritage culture group acculturate more slowly if they are high in need for closure (Kosic, Kruglanski, Pierro, & Mannetti, 2004). Likewise, other studies suggest that acculturation is quicker for individuals whose perceptions of the host culture's consensual patterns are similar to the average of the host culture natives' perceptions. (Kurman & Ronen-Eilon, 2004).

The role of perceived consensus may also account for why not only immigrants but even sojourners—people engaging in another culture for a limited visit—take on some of its psychological tendencies. Self-esteem tends to be lower in Japan than in the West (Heine, Lehman, Markus, & Kitayama, 1999). A surprising finding is that Japanese people, after half a year in Canada, exhibit significantly

higher self-esteem, whereas Canadians in Japan exhibit significantly lower self-esteem (Heine & Lehman, 2004). Similarly, there are cultural biases in visual judgments of line length and similarity. Japanese people temporarily studying in America begin to show the characteristic American patterns, whereas Americans studying in Japan begin to show the characteristic Japanese patterns (Kitayama, Duffy, Kawamura, & Larsen, 2003). Sojourners' self-esteem changes have been explained in terms of enacting stereotypical manners or socially desirable responses (Heine & Lehman, 2004). Although this explanation is possible with regard to self-esteem measures, it strains credulity that sojourners consciously conform to cultural biases in line-length judgments. These cognitive patterns have been explained in terms of self-selection of visitors to cultures where their style of thinking fits (Kitayama, Ishii, Imada, Takemura, & Ramaswamy, 2006). We propose a different mechanism for both sojourner findings, one that is more akin to unintentionally picking up local accents and expressions when traveling. That is, through interacting with the host culture, people acquire tacit perceptions of prevailing beliefs, values, and behavioral tendencies. These judgments and perceptions then exert directive force over behavior. This acculturation process does not hinge upon conversion of self-concept or personal beliefs (cf. Sussman, 2000). Instead, people may have the capacity like radios, to pick up the local frequency in a new cultural environment and to output the corresponding signals. Sojourners' tendency to spontaneously and rapidly adopt emotional and cognitive tendencies from a host culture is a fascinating topic for future research.

## Cultural Persistence and Change

Pluralistic ignorance provides an account for why traditional ways and practices persist despite changes in private beliefs and values. It also offers distinctive insights about why cultures sometimes do change dramatically. If people's behaviors depend on what they perceive to be the consensus, and these perceptions depend on their peers' behaviors, then it is not surprising that interventions that change these perceptions can shift people's behaviors and that this can then cascade to shift others' behaviors (D. Cohen, 2001; Kuran, 1995). For instance, the thousand-year-old practice of foot-binding in China changed quickly through this dynamic. In the province of Dingzhou, for example, 99% of the women had their feet bound in 1889, whereas almost none did 30 years later (Mackie, 1996). Activists encouraged the more progressive families to publicly commit to not bind their daughters' feet. Then, seeing that some of their neighbors were not foot-binding, moderate families also stopped doing it. Once a majority of families stopped, then the practice dramatically declined, virtually disappearing from the culture. Around the same time in the United States, during Prohibition, people believed that most Americans supported the law, in large part because it was socially undesirable to publicly defend alcohol, and few people did. However, when opinion polls revealed that most Americans privately disliked the law, support fell lower and the law was repealed (Katz & Schnack, 1938). In sum, conformity to perceived consensus creates tipping points in social change. This analysis suggests very different strategies for fostering cultural change, or resisting it, than are implied by a view of cultural practices as rooted in deep-seated inner values.

Our model also provides insights about cultural evolution. Diversity in consensus perceptions produces variation in judgment and decision biases, even when all individuals are simply conforming to



their perceptions of the consensus. In proposing his view that perceived consensus differs across individual members of a culture, Keesing (1981) said, "It seems likely that a range of diversity in the individual versions of the 'common' culture is not simply a social imperfection, but an adaptive necessity: a crucial resource that can be drawn on and selected from in cultural change" (p. 88). This diversity in biases or strategies enables cultural evolution through population-level learning, in that changing ecological conditions reward different members of the population, giving them success and prestige, which then leads their biases/strategies to be imitated by others (Henrich & Gil-White, 2001).

### *Limitations and Future Research*

As an initial step to establish perceived cultural consensus as a mechanism for explaining cross-cultural difference, in the present research, we investigated known cultural differences to examine the mechanisms of perceived cultural consensus and personal beliefs. Because the concept of perceived cultural consensus resembles that of ingroup prototypes, in many respects, the present research broaches a larger theoretical question: how culture is theoretically distinct from groups. We hold, with Kashima (2000), that whereas *group* (or *society*) refers to an assemblage of related individuals that can be considered as a social unit, *culture* refers to the knowledge tradition that is collectively constructed over generations to assign meanings and significance to the group's social experiences (see also Barth, 2002; Chiu & Hong, 2006; Rohner, 1984). Future work should address the dynamics and complex association between the perceived cultural consensus and the critical group variables, such as group prototypes and group identification.

### *Perceived Cultural Consensus Versus Group Prototypes*

Although, within a society, there are considerable individual differences in the values and beliefs that are perceived to be widely shared in the society, our results also revealed substantial agreement in the social representation of culture. Social identity research has given psychology many insights about how intergroup comparisons facilitate the construction of group representations (Hogg, 2004; Turner et al., 1987). However, even within that tradition, some researchers have identified the role of communication in sustaining group representations in the absence of intergroup comparison (Postmes et al., 2005; see also Moreland, Argote, & Krishnan, 1996). Comparison may be less likely for broadly encompassing traditions, such as Western culture or Chinese culture, than for narrower social categories. Residents of a remote village in the center of America or of China may not reflect on their culture as a category or compare it with other cultural categories. Yet they nonetheless have well-elaborated representations of common sense, of perceived consensus.

### *Perceived Consensus and Cultural Identification*

Analogous to group identification is the construct of cultural identification—the extent to which individuals feel at one with their cultures (Oakes et al., 1994; Turner et al., 1987). On the one hand, cultural identification may moderate the effect of perceived cultural consensus on judgment. From the perspective of social identity theory, high group identification amplifies the perceived relevance of ingroup prototype and relies on it as a guide to

judgment (Hogg & Abrams, 1988; Terry & Hogg, 1996). This suggests that people with high cultural identification may be more likely to anchor their judgments on their perception of the cultural consensus. Indeed research has found that the link between need for closure and adherence to perceived cultural consensus is stronger among participants high in cultural identification (Chao, Zhang, & Chiu, in press).

On the other hand, when a perceived cultural consensus is viewed as highly relevant to a judgment, perceivers may use their representation of the consensus to guide their judgment, irrespective of their level of cultural identification. Although the current studies lack a direct measure of cultural identification, we probed this issue by constructing a rough proxy for identification, the absolute-value difference score between personal beliefs and perceived consensual beliefs (similar to the measure reported in Wan et al., 2007b). This variable did not moderate the effect of perceived cultural consensus in any of our studies. Although it is not conclusive, this result suggests that cultural identification may operate more indirectly than the analogous construct of group identification. Future research should directly measure cultural identification and probe its similarities to and differences from group identification.

### *Possible Mechanisms of Cultural Consensus Effects*

Another question for future research is *how* perceived societal consensus influences judgment. Perceived consensus could influence judgements through heuristic systematic processes (Eagly & Chaiken, 1993). Perceived consensus may serve as an anchor when processing intuitively and spontaneously (Kahneman, 2003; Stanovich & West, 2000). Alternatively, in more analytic, deliberate processing, perceived consensus may play a role in critical reflections on one's judgments or decisions. Even when accuracy is the processing goal in the judgment context, people often use match with ingroup beliefs to verify their personal beliefs (Turner, 1991). For instance, research has shown that the purported positions of an individual's political party on certain public policies can powerfully shape policy judgments (G. L. Cohen, 2003). As Festinger (1950) argued, we regard an answer as "correct, valid, and proper to the extent that it is anchored in a group of people with similar beliefs" (p. 272). Future research should investigate the role of perceived consensus in both intuitive and analytical process. In conclusion, this article advances an alternative model of the cognitive mechanism through which culture shapes many social judgments, situating the mechanism in individuals' outward-looking perceptions of their cultural fellows, rather than in individuals' inward-looking self-perceptions.

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## Appendix

### Causal Beliefs

#### Dispositionism Description

How people behave is mostly determined by their personality. One's personality predisposes and guides an individual to behave in one way, not in another way, no matter the circumstances. In a sense, behavior is an unfolding of personality. One's behavior is remarkably stable across time and consistent across situations because it is guided by personality. Therefore, if we know the personality of one person, we can easily predict how the person will behave in the future and explain why that person behaved in a particular way in the past.

#### Situationism Description

How people behave is mostly determined by the situation in which they find themselves. Situation power is so strong that

we can say it has more influence on behavior than one's personality. Often, people in a particular situation behave very similarly, despite large individual differences in personality. Therefore, to predict and explain one's behavior, we have to focus on the situation, rather than personality. Personality plays a weaker role in behavior than we used to think.